

MI PRAMS Delivery

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Preconception Health Among Women with a Prior LBW Infant

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Preconception health helps ensure that women modify their behavior in order to improve their overall health and reduce adverse pregnancy outcomes, including low birth weight (<2500 grams) and premature births (<37 gestational week).

There is a high likelihood for repeated adverse pregnancy outcomes. Therefore, women who have an infant born with a low birth weight (LBW) should be given information before conception on how to reduce the risks (1).

Studies have also shown that short (<18 months) interpregnancy intervals increase the likelihood of poor perinatal outcome (2,3).

Effective family planning strategies would provide education to women including also different preconception interventions such as smoking cessation, folic acid intake, and medication adjustments (4).

In 2003, Michigan's prevalence rate of low birth weight infants was 8.4% compared to the national rate of 7.9 (5,6).

The Healthy People 2000 Objective 14.3 is to have 60% of primary care physicians providing age-appropriate preconception care to women of child-bearing age (7). However, only one in four physicians report providing this information (2). Also, though no specific goal exists in the Healthy People 2010, several recommendations are relevant to preconception health (1).

This issue focuses on women who have reported giving birth previously to a LBW infant.

Points of Interest

- ♦ Among women with a prior LBW infant, approximately 18% of women reported having another LBW infant.
- ♦ None of the preconception health measured available were significantly associated with chronic LBW pregnancies.
- ♦ Other factors that increase a woman's risk of repeated adverse pregnancy outcomes should be further explored.

Prior Low Birth Weight Births

Women who have a prior infant with a LBW are more likely to have another baby with an adverse outcome. It is important to learn their

maternal characteristics in order to develop targeted interventions. Using July 2001 – Dec 2003 PRAMS survey, women who answered yes to: "Did the

baby born just before you new one weigh 5 pounds 8 ounces or less?" were classified as women who had a prior low birth weight infant.

Among the respondents, 9.6% of women had a previous pregnancy which resulted in a LBW infant (Figure 1). In this issue of the newsletter, the study focuses on these women who had previous LBW infant. All other women were not included in the analysis.

Prevalence of Prior LBW Infants

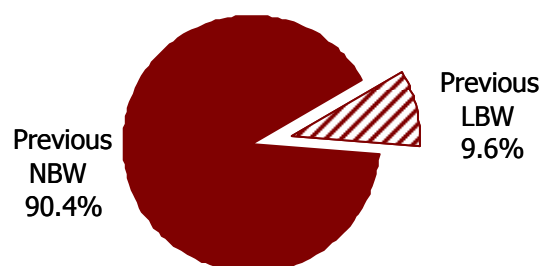


Figure 1: Prevalence of Prior Low Birth Weight Infants, Jul 2001- Dec 2003 MI PRAMS

Preconception Health & Care

The CDC has developed several recommendations to improve preconception health and care with the overall goal to improve pregnancy outcome:

- ◆ Encourage individual responsibility for health care.
- ◆ Increase consumer awareness about the importance of preconception health.
- ◆ Provide risk assessment and counseling to women of child bearing during preventative visits.
- ◆ Increase the proportion of women who receive interventions for identified risks.
- ◆ Provide inter-conception care for women who had a previous adverse pregnancy outcome.
- ◆ Provide pre-pregnancy check ups.
- ◆ Increase health coverage for low-income women.
- ◆ Integrate components of preconception health into public health programs.
- ◆ Increase research related to preconception health.
- ◆ Monitor improvements related to preconception health (2).

Demographics

Among women with a previous LBW infant, approximately 18.1% had another LBW infant from their most recent pregnancy.

The prevalence rate of having another LBW infant was almost two times higher in Black women, with a 26.2%

prevalence rate as opposed to 13.2% in White women (Figure 1).

Comparing by maternal age, women younger than 25 years of age reported a higher rate of a subsequent LBW infant (21.6%) while women 25 years of age and older had a 16.8%

prevalence rate.

Further, when stratified by education, the rate of another LBW infant is lowest among women who have at least a college degree, while women without a high school diploma have the highest rate (11.4% and 24.6%, respectively).

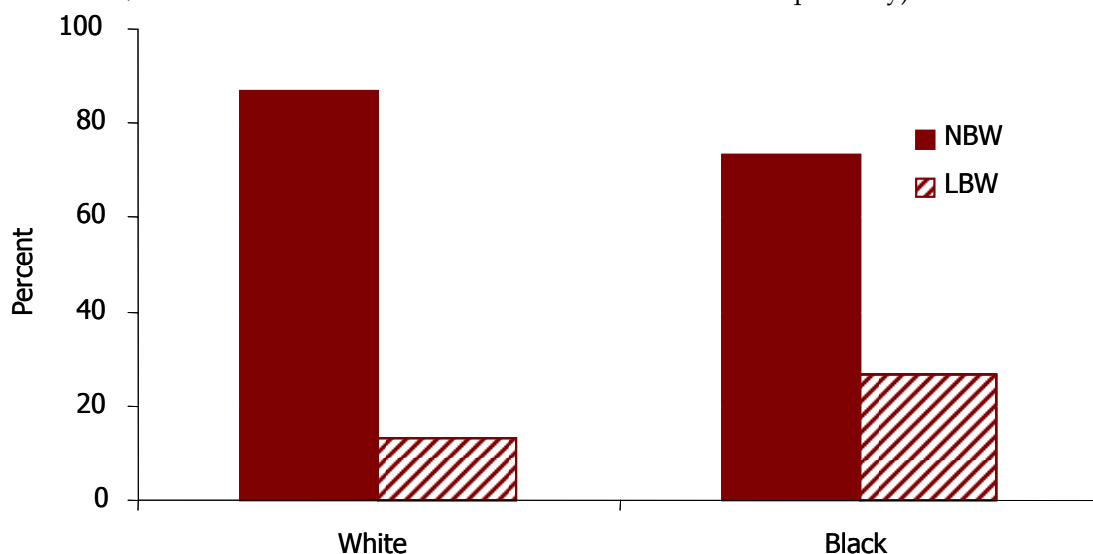


Figure 2: Prevalence of Infant Birth Weight stratified by Maternal Race, Controlling for Prior Low Birth Infant, July 2001- Dec 2003 MI PRAMS

Preconception Health Behavior

The PRAMS survey has questions that pertain to preconception health, including smoking and alcohol behavior, folic acid intake, Medicaid status and, birth control use.

The responses were analyzed in association with the current pregnancy to learn if any of these factors are associated with subsequent adverse outcome.

In the PRAMS survey, women are asked if they had engaged in any smoking or drinking three

months prior to pregnancy. Among women in the selected population for this newsletter, those who reported smoking three months prior to pregnancy had higher rates of subsequent LBW infants than those who did not smoke (20.7% and 17.0% respectively). This was not true for the alcohol use. Women who had either reported drinking or not drinking in the three months prior to pregnancy had similar rates of having a LBW infant (Drank:

18.8%; Did not Drink: 17.9%).

Another preconception behavior measured in PRAMS is multivitamin intake. Taking multivitamins which contain folic acid everyday in the months prior to pregnancy reduces the risk of birth defects in infants, specifically neural tube defects. Women who stated that they took a multivitamin at least once a week had a lower rate of LBW infants (15.1%) then those who reported not taking any multivitamins

(21.3%).

Health insurance status prior to pregnancy is also important indicator for preconception health status. Women who reported receiving

Medicaid had an almost double prevalence rate of LBW infants than those who did not have Medicaid (27.6% and 15.5% respectively – Figure 3).

In addition, birth

control use prior to pregnancy is also recorded in RPAMS. The LBW rate was slightly higher among women who were using birth control (21.5%) compared to those who were not using it (19.4%).

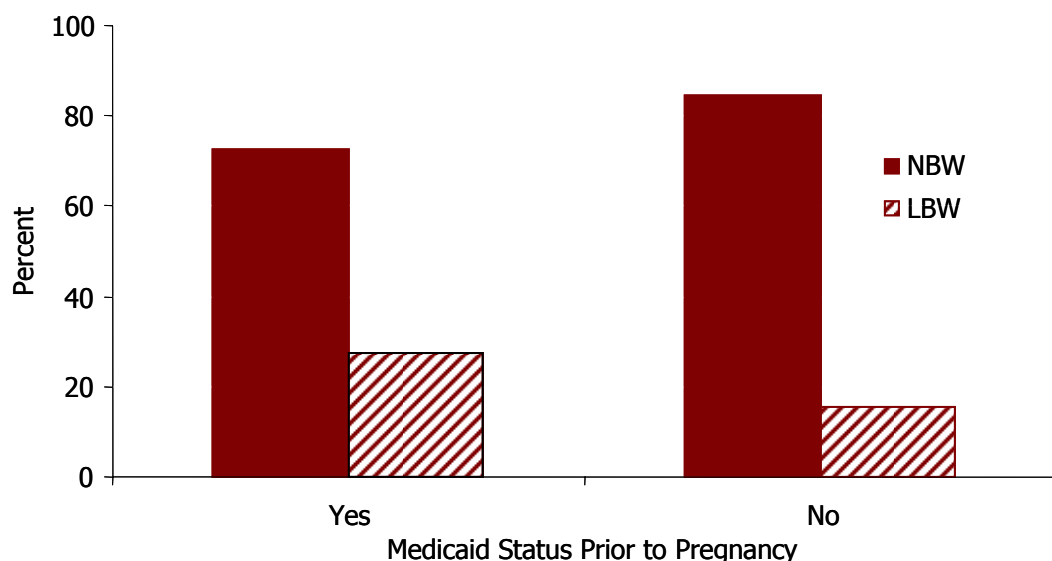


Figure 3: Prevalence of Infant Birth Weight stratified by Medicaid Status Prior to Pregnancy, Controlling for Prior Low Birth Infant, Jul 2001- Dec 2003 MI PRAMS

Association of Medicaid Status & LBW

Medicaid status prior to pregnancy and a subsequent LBW infant were significantly associated with a crude odds ratio (Crude OR: 2.1 95%CI: 1.1, 3.8). However, after controlling for maternal age, maternal race, and the preconception health variables available in PRAMS, Medicaid status does not remain significant (Adjusted OR: 1.6, 95%CI: 0.7, 3.6). None of the variables included in the model had a significant association with LBW suggesting that there are other factors increasing a

woman's risk to have more than one LBW infant.

Also, it is important to note that this analysis has several limitations:

- ♦ Pregnancy interval cannot be calculated.
- ♦ No specific questions concerning family planning or whether mother went to doctor for a health check-up.
- ♦ Possible misclassification of certain factors due to recall bias
- ♦ Small sample size when stratified for analysis

Recommendations

- ♦ Ensure that health care professionals provide information about family planning and preconception health
- ♦ Provide information to women with a prior low birth weight infant about how to reduce her risk of having another adverse pregnancy outcome.
- ♦ Develop strategies to ensure that women learn about the family planning services available in their communities.

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About Michigan's PRAMS

The Pregnancy Risk Assessment Monitoring System (PRAMS), a population-based survey, is a CDC initiative to reduce infant mortality and low birth weight. It is a combination mail/telephone survey designed to monitor selected self-reported maternal behaviors and

experiences of women who delivered a live infant in Michigan that occur before and during pregnancy, as well as early-postpartum periods. Information regarding the health of the infant is also collected for analysis. Annually, over 2,000 mothers are selected at random to participate from

a frame of eligible birth certificates. Women who delivered a low-birth weight infant were over-sampled in order to ensure adequate representation. The results are weighted to represent the entire cohort of women who delivered during that time frame.

Plan First!

Michigan has recently unveiled the Plan First! program which will bring family planning services to women who otherwise do not have medical coverage for these visits. Eligibility requirements include being a female who: is a Michigan resident, between 19-44 years of age, not receiving Medicaid, and meets monthly family income limits. For more information about Plan First! women should contact their local health department or call 1.800.642.3195.

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